

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

Claims 1-12 (Canceled)

13. (Currently Amended) A single pass process for forming ~~a yard sign~~ yard signs from individual sheets of sign stock and comprising the steps of:

- (a) conveying ~~[[a]]~~ each two sided sheet of a sign stock ~~coated with a fusible polymer~~ to a printing station and screen printing an image on an image side of said sheet, said sheet being coated on both sides with a fusible polymer having a first thickness on said image side and a greater second thickness on an inner side opposite said image side;
- (b) conveying the printed sheet to a scoring station and scoring said sheet to form a fold line along said sheet;
- (c) conveying the scored sheet to a folding mechanism and folding said sheet in half at said fold line to form a folded sheet with said image side on an outside of said folded sheet; said folded sheet having a folded edge, an end edge opposite said folded edge, and opposite side edges extending respectively between said folded edge and said end edge; and

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

- (d) conveying the folded sheet to a sealing device and ultrasonically heating each of said side edges of said folded sheet to fuse said fusible polymer on said inner side along said side edges to thereby adhere portions of said sheet at said side edges together to form a pocket within said folded sheet to receive a sign support member.

14. (Original) A process as set forth in Claim 13 and including the steps of:

- (a) printing said image as an ink pattern on said sheet; and
- (b) curing said ink pattern using ultraviolet light.

15. (Previously presented) A process as set forth in Claim 13 and including the steps of:

- (a) providing said folding mechanism with a parallel pair of nip rollers and a folding knife positioned to urge a sheet into engagement with said nip rollers;
- (b) conveying the scored sheet to a position which aligns said fold line with said folding knife;
- (c) extending said folding knife toward said scored sheet to urge said sheet at said fold line into engagement with said nip rollers; and
- (d) rotating said nip rollers to propel said scored sheet between said nip rollers to thereby fold said scored sheet at said fold line.

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

16. (Original) A process as set forth in Claim 15 wherein said heating step includes the steps of:
- (a) providing a pair of sets of an ultrasonic horn and an ultrasonic anvil, said sets being positioned in a selected spaced relation to said nip rollers and being spaced apart substantially equal to a distance between said side edges; and
 - (b) propelling said folded sheet by said nip rollers through said sets of an ultrasonic horn and an ultrasonic anvil whereby each ultrasonic horn heats a respective side edge of said folded sheet.
17. (Original) A process as set forth in Claim 16 wherein said pair of nip rollers are a pair of first nip rollers and including the steps of:
- (a) providing a parallel pair of second nip rollers positioned in spaced relation to said first nip rollers with the ultrasonic horns and anvils positioned between said first nip rollers and said second nip rollers;
 - (b) engaging said folded sheet with said second nip rollers subsequent to said folded sheet being propelled through said sets of said ultrasonic horns and anvils; and
 - (c) propelling said folded sheet by said second nip rollers to a stacking station.

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

18. (Withdrawn) A yard sign formed by the process of Claim 13.
19. (Currently Amended) A single pass process for forming ~~a yard sign~~ yard signs from individual sheets of sign stock and comprising the steps of:
- (a) screen printing an image on an image side of ~~[[a]]~~ each two sided sheet of a sign stock coated with a fusible polymer having a first thickness on said image side and a greater second thickness on an inner side opposite said image side, said printing step including the steps of:
 - (1) printing said image as an ink pattern on said image side of said sheet; and
 - (2) curing said ink pattern using ultraviolet light;
 - (b) scoring said sheet to form a fold line along said sheet;
 - (c) folding said sheet in half at said fold line to form a folded sheet with said image side on an outside of said folded sheet; said folded sheet having a folded edge, an end edge opposite said folded edge, and opposite side edges extending respectively between said folded edge and said end edge, said folding step including the steps of:
 - (1) providing a folding mechanism including a parallel pair of nip rollers and a folding knife positioned to urge a sheet into engagement with said nip rollers;

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

- (2) conveying the scored sheet to a position which aligns said fold line with said folding knife;
 - (3) extending said folding knife toward said scored sheet to urge said sheet at said fold line into engagement with said nip rollers; and
 - (4) rotating said nip rollers to propel said scored sheet between said nip rollers to thereby fold said scored sheet at said fold line; and
- (d) ultrasonically heating each of said side edges of said folded sheet to fuse said fusible polymer on said inner side along said side edges to thereby adhere portions of said sheet at said side edges together to form a pocket within said folded sheet to receive a sign support member, said heating step including the steps of:
- (1) providing a pair of sets of an ultrasonic horn and an ultrasonic anvil, said sets being positioned in a selected spaced relation to said nip rollers and being spaced apart substantially equal to a distance between said side edges; and
 - (2) propelling said folded sheet by said nip rollers through said sets of an ultrasonic horn and an ultrasonic anvil whereby each ultrasonic horn heats a respective side edge of said folded sheet.

Appl No. 10/716,214

Amendment Dated January 20, 2006

Reply to Office Action of September 7, 2005

20. (Previously presented) A process as set forth in Claim 19 and including the step of:
- (a) providing said sheet of said sign stock which has a coating of polyethylene with a thickness of approximately 0.5 mil on said image side of said sheet and a coating of polyethylene with a thickness of approximately 0.875 mil on said inner side of said sheet opposite said image side.
21. (Original) A process as set forth in Claim 19 wherein said pair of nip rollers are a pair of first nip rollers and including the steps of:
- (a) providing a parallel pair of second nip rollers positioned in spaced relation to said first nip rollers with the ultrasonic horns and anvils positioned between said first nip rollers and said second nip rollers;
 - (b) engaging said folded sheet with said second nip rollers subsequent to said folded sheet being propelled through said sets of said ultrasonic horns and anvils; and
 - (c) propelling said folded sheet by said second nip rollers to a stacking station.
22. (Withdrawn) A yard sign formed by the process of Claim 19.

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

23. (Currently Amended) A single pass apparatus system for forming a ~~yard sign~~ yard signs from individual sheets of sign stock and comprising:

- (a) a screen printing station receiving [[a]] each two sided sheet of a sign stock coated on both sides with a fusible polymer having a first thickness on an image side and a greater second thickness on an inner side opposite said image side and screen printing an image on [[an]] said image side of said sheet;
- (b) a scoring station receiving said sheet from said printing station and having a set of scoring members to score said sheet to form a fold line along said sheet;
- (c) a folding mechanism receiving said sheet from said scoring members and folding said sheet at said fold line to form a folded sheet with said image side on an outside of said folded sheet; said folded sheet having a folded edge, an end edge opposite said folded edge, and opposite side edges extending respectively between said folded edge and said end edge; [[and]] said folding mechanism including:
 - (1) a parallel pair of nip rollers and a folding knife positioned to urge said sheet into engagement with said nip rollers;
 - (2) said folding knife being extended toward the scored sheet to urge said sheet at said fold line into engagement with said nip rollers; and

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

- (3) said nip rollers being rotated to propel said scored sheet between said nip rollers to thereby fold said scored sheet at said fold line:
- (d) a sealing station receiving said folded sheet from said folding mechanism and ultrasonically heating each of said side edges of said folded sheet to fuse said fusible polymer along said side edges to thereby adhere portions of said sheet at said side edges together to form a pocket within said folded sheet to receive a sign support member; said sealing station including:
- (1) a pair of sets of an ultrasonic horn and an ultrasonic anvil, said sets being positioned in a selected spaced relation to said nip rollers and being spaced apart substantially equal to a distance between said side edges; and
- (2) said nip rollers propelling said folded sheet through said sets of an ultrasonic horn and an ultrasonic anvil whereby each ultrasonic horn heats a respective side edge of said folded sheet; and
- (e) a curing station positioned between said printing station and said scoring station and including an ultraviolet lamp positioned and oriented to radiate ultraviolet light onto said image side of said sheet to cure said image on said sheet.

Claims 24-26 (Canceled)

Appl No. 10/716,214
Amendment Dated January 20, 2006
Reply to Office Action of September 7, 2005

27. (Currently amended) ~~An apparatus~~ A system as set forth in Claim ~~[[26]]~~ 23 wherein said pair of nip rollers are a pair of first nip rollers and including:

- (a) a stacking station positioned downstream of said sealing station, said stacking station receiving said folded sheet from said sealing station and storing a plurality of the folded sheets;
- (b) a parallel pair of second nip rollers positioned in spaced relation to said first nip rollers with the ultrasonic horns and anvils positioned between said first nip rollers and said second nip rollers;
- (c) said second nip rollers engaging said folded sheet subsequent to said folded sheet being propelled through said sets of said ultrasonic horns and anvils; and
- (d) said second nip rollers propelling said folded sheet to said stacking station.